AMENDMENTS TO THE CLAIMS

1. (Original) An optic switching system for moving an optic element between a stowed and deployed position, the system comprising:

a platform that pivots about an axis of rotation, and having a range of motion that includes a stowed position and a deployed position;

an optic element operatively coupled to the platform;

a hard stop proximate the platform, thereby defining the deployed position;

a motor having an actuator arm coupled to its shaft;

a push/pull spring operatively coupling the platform to the actuator arm of the motor, and adapted to preload the platform against the hard stop, thereby holding the platform in the deployed position despite opposing forces; and

a process controller communicatively coupled with the motor for commanding deployed and stowed positioning.

2. (Original) The system of claim 1 wherein the platform further includes a stop interface that is adapted to mate with the hard stop, wherein the stop interface is made of a material that is harder than the material of which the platform is made.

3. (Original) The system of claim 1 wherein a pivot is operatively coupled to the platform thereby defining the axis of rotation, the pivot providing both frictionless bearing and rotational spring resistance during motion.

4. (Original) The system of claim 3 wherein the rotational spring resistance provided by the pivot operates in conjunction with the push/pull spring and the motor to provide positional stability.

5. (Original) The system of claim 1 wherein the optic element is a total internal reflection (TIR) prism adapted to deflect a laser beam 90°.

6. (Original) The system of claim 1 wherein the push/pull spring is fabricated from a strip of thin stainless steel having dimensions that operate in conjunction with torque capability of the motor to provide a desired preload force for holding the platform in the deployed position.

7. (Original) The system of claim 1 wherein the platform further includes a stop interface that is adapted to mate with the hard stop, the stop interface having a semi-circular shape that seats into a v-groove of the hard stop, thereby defining a two point kinematic contact.

8. (Original) The system of claim 1 wherein the hard stop is provided by a motion limiting ball and groove configuration.

9. (Original) The system of claim 1 wherein the motor is a low speed, high torque motor that is internally geared down.

10. (Original) The system of claim 1 wherein the process controller provides position commands to the motor, and receives sense signals indicating the position of the motor's actuator.

11. (Original) The system of claim 1 wherein in response to a stow command, the motor is continuously driven so as to provide a constant pull torque on the push/pull spring, thereby maintaining the platform in the stowed position.

12. (Original) The system of claim 1 further comprising:

one or more limit switches adapted to indicate actuator arm position, thereby allowing for a known preload force to be applied in maintaining at least one of the deployed and stowed positions.

13. (Currently amended) An optic switching system for moving an optic element between stowed and deployed positions, the system comprising:

an optic platform that pivots about an axis of rotation, and having a range of motion that includes a first position and a second position;

a hard stop proximate the platform, thereby defining the first position; and

a push/pull spring operatively coupling the platform to a motor assembly, and adapted to preload the platform against the hard stop, thereby holding the platform in the first position despite opposing forces.

14. (Original) A method for switching an optic between stowed and deployed positions, wherein the optic is mounted on a pivotable platform that can swing between stowed and deployed positions under the control of a motor operatively coupled to the platform by a push/pull spring, the method comprising:

commanding deployment of the optic;

pushing the optic platform into the deployed position with the push/pull spring; and

preloading the platform against a hard stop, thereby holding the platform in the deployed position despite opposing forces.

15. (Original) The method of claim 14 further comprising:

in response to receiving a request for the stowed position, commanding non-deployment of the optic; and

pulling the optic platform into the stowed position using the push/pull spring.

16. (Original) The method of claim 15 further comprising:

sensing when the platform is sufficiently stowed.

17. (Original) The method of claim 16 wherein sensing when the platform is sufficiently stowed includes sensing when an actuator arm of the motor is in a position associated with the stowed position.

18. (Original) The method of claim 15 wherein pulling the optic platform into the stowed position using the push/pull spring includes at least one of preloading the platform against a hard stop defining the stowed position, and pulling the platform at a predefined torque.

19. (Original) The method of claim 14 further comprising:

sensing when the preloading of the platform against the hard stop is at a predefined force.

20. (Original) The method of claim 19 wherein sensing when the preloading of the platform against the hard stop is at a predefined force includes sensing when an actuator arm of the motor is in a position associated with the predefined force.

21. (Cancelled)

22. (New) The method of claim 13 wherein the push/pull spring comprises:

an elongated strip of material having spring like and flexible qualities, and further having dimensions and a modulus of elasticity associated with torque capability of the motor assembly; and

a clip adapted to couple around the strip, thereby forming the strip into an open-ended loop and enabling the spring like and flexible qualities of the strip to push and preload the platform against the hard stop;

wherein one end of the strip is operatively coupled with the motor assembly, and the other end of the strip is operatively coupled with the optic platform.